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| EXAMINER | |
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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Paper No. 23

Application Number: 09/074,093
Filing Date: May 07, 1998
Appellant(s): SHAW ET AL.

Melvin J. Scolnick
For Appellant

**SUPPLEMENTAL EXAMINER'S ANSWER**

This is in response to the appeal brief filed on February 12, 2002.

***(1) Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

*(2) Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

*(3) Status of Claims*

The statement of the status of the claims contained in the brief is correct.

*(4) Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

*(5) Summary of Invention*

The summary of invention contained in the brief is correct.

*(6) Issues*

The appellant's statement of the issues in the brief is correct.

*(7) Grouping of Claims*

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because the essential of applicant's invention is an antenna movement pivoted at or near the surface of a telephone through an acute angle while remaining in a single plane to get from a point A to a point B and biased at those two points. Applicant has five groups and each essentially say the same thing. Claim 18 seeks to differentiate itself from the other by saying that

this is adapted for single band operation. Claim 21 has the pivoting arranged internally to the phone. Claim 27 just states that both position A and position B project from the surface of the phone. Thus, the examiner believes that the claims do stand together and fall together.

***(8) Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

***(9) Prior Art of Record***

| | | |
|---|---|---|
| 5,590,416 | Rydbeck | 12-1996 |
| GB 2,018,033 A, UK Patent Application- | Podgorny | 10 October 1979 |

***(10) Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rydbeck, in view of Podgorny. This rejection is set forth in prior Office Action, Paper No. 14 (Final Rejection).

Regarding claims 1, 2, 4, 5, 7-12, 17, 18, 21, 22, and 27; Rydbeck discloses a canted antenna for a cellular radiotelephone that is movable between a first position and a second position. In the first position, the antenna is substantially parallel to the face of the radiotelephone. In the second position, the antenna is canted away from the face of the radiotelephone thus increasing the distance from the user's head and the antenna during use (col.1, lines 56-67). The angular orientation caused by the second position defines an arrangement of the antenna and the radiotelephone such that the axis and the imaginary plane defined by the extended front face of the radiotelephone form an acute angle. Thus, the antenna moves through this acute angle from the first position to the second position when observed along the plane joining the first and second position (col. 2, lines 10-27). The first position is also thought of as a storage position and reduces the profile of the radiotelephone (col. 3, lines 4-10). Rydbeck makes use of a boss having an angled surface connecting one end of the antenna to permit the movement from the first position to the second position. Rydbeck does not utilize a pivot to permit single plane movement between the two positions, nor is the antenna biased and adapted to be locked as the antenna pivots.

Podgorny is directed to systems of antenna orientation with respect to a transmitting radio station and to pivotable non-retracting rod antennas and teaches pivoting in a vertical plane. There is provided a support for a pivotable road antenna comprising an antenna tip encased in a housing mounted so as to be pivotable about a transverse pivot and is provided with an antenna tilt locking device provided with a stopping member which is spring loaded toward the surface of one of the recesses of the housing unit (page 1, lines 20-45). Thus, like the applicant's device the antenna is biased and adapted to be locked as the antenna pivots. The Podgorny reference

utilizes numerous embodiments as seen in Figures 1-20 and would be readily adaptable to being encased in a mobile phone system. The Podgorny invention pre-dates the modern mobile telephone station but lends itself to projecting form the surface of the telephone housing. The mechanism of Figures I and 15-20 show the means for vertical movement of the antenna between definite position as called out in applicant's invention and can be constructed to insure maximum acute angle of the antenna in a single plane.

Rydbeck and Podgorny are combinable because they share a common endeavor, namely, radio transmitting stations that incorporate antennas that project outward form the station. At the time of the applicant's invention, it would have been obvious to modify Rydbeck to use the antenna movement that is vertical, in a single plane biased and adapted to be locked as the antenna pivots as done by Podgorny. The motivation to combine would have been to provide greater simplicity and an improvement in antenna movement of the Rydbeck device.

Regarding claims 3, 6, 19, and 20, depending on the hinging configuration of Podgorny, as well as the groove configuration, the antenna will tend to be moved towards one or both positions.

Regarding claim 13, as seen in the Figures 1 and 15 if the antenna structure is mounted at the top surface of the mobile station housing the plane of rotation will be perpendicular to the front of the radio telephone.

Regarding claim 14, helical antennas are known to be configured inside housing as the one illustrated in Rydbeck and they are known to have the flexibility to make this canted position possible and the Podgorny antenna is non-retracting. Therefore, it would have been obvious for

Rydbeck to utilize helical antenna structures in canted antenna radiotelephones because of their physical flexibility and strong availability in the industry.

Regarding claim 15, Rydbeck's preferred embodiment provides for the phone's speaker to be positioned on the phone's front face and mounted adjacent to the top edge [the edge where the antenna is located] (col. 3, lines 35-46).

Regarding claim 16, Rydbeck's preferred embodiment, as is typical with radiotelephones, places the microphone at the bottom of the front face, away from the antenna at the top (Figure 2 and col. 3, lines 35-46).

Regarding claim 22, Podgorny utilizes stop members for holding positions between a first and last position.

Regarding claims 23-26, Podgorny permits construction (as in the figures of the various embodiments to perform biasing and permit locking in a wide variety of positions.

***(11) Response to Argument***

Both Rydbeck and applicant's portable radiotelephone antennas start out with a stated purpose of having a storage position where there telephone presents a reduced profile when not in use (Rydbeck - col. 3, lines 6-8). Both Rydbeck and applicant's portable radiotelephone antennas have a second operating position, canted away form the head of the user (Rydbeck - col. 3, lines 8-10). The difference between the two devices that is of concern in this appeal case is how to get from position A to position B. Applicant seeks to get from position A to position B by staying in a single plane. Rydbeck illustrates an embodiment that gets between these

positions by passing through an arc (this type movement could be considered a three dimensional pivot). **Rydbeck states that "other conventional mountings which allow the antenna to move between first and second positions may be used as will be understood by those having skill in the art"** (col. 5, lines 14-20). Thus, Rydbeck feels that utilizing other mechanisms that get the antenna between the two positions are still within the spirit of his invention. The supporting reference, Podgorny teaches pivotable non-retracting rod antennas pivoting in a vertical plane. The rationale for combining the two references is detailed in the Final rejection (Paper 14).

The examiner feels that if mechanisms related to generic type antenna movement that move the portable radio telephone antenna between the two positions in a single plane exist in the prior art then the pertinent prior art can be combined with Rydbeck in rejecting applicant's claims. Podgorny provides such a mechanism. Further, the examiner feels that applicant's invention where there is projection from the surface or pivoted internal to the phone is an obvious modification of Rydbeck in that Rydbeck's antenna can be implemented with the boss mechanism instituted just below the telephone's surface without negative effects on performance. As a matter of fact, no dimensions regarding a distance above the surface is given either in the drawing nor is any reference made to a distance above or below the surface in the text.

Regarding Group 1, the most important aspects of Rydbeck as suggested by the specification and drawing are the angles around an axis perpendicular to the boss, having the angled surface, between a first position and a second position. Podgorny contains several

configurations which achieve the single plane motion as well as detented biasing to allow only set positions between positions A and B. Podgorny relates to systems of antenna orientation with respect to a transmitting radio and more particularly to **supports of pivotable rod antennas.** With Podgorny, there is provided a support for a pivotable rod antenna comprising an antenna tip encased in a housing mounted so as to be pivotable about a transverse pivot, and having a rounded base with alternate projections and recesses formed around the profile, there being provided an antenna tilt locking device with a stopping member which is spring loaded towards the surface of a recess adjacent to the one recess which has a round cross section in the antenna pivoting plane. An additional stopping member enables the number of supports of the base tip to be increased (page 1, lines 25-51).

Regarding applicant's Group 2 arguments stating that the cited prior art does not show pivoted between a first position and a second position, antenna arranged to pivot in a single plane, the antenna being biased, and the antenna being adapted to be locked as the antenna pivots, Podgorny handles each of these tasks. The mechanism shown in Podgorny's Figure 1, especially the base with the alternate projections (refs. 3 and 8, respectively) depending on the dimensions, makeup and number of the projections, can handle the one pivot to get from position one to position 2 and in a single plane. In changing from one releasably locked position to the next releasably locked position, the spring loading will favor a bias depending on which position is closer (refs. 3, 11, and 12). Depending on the factors mention above (dimensions, makeup and number of the projections), the antenna will be releasably locked as it pivots.

Regarding group 3, the only aspect not dealt with in Group 2 is the antenna traveling though an acute angle only. Again, this aspect also depends on the dimensions, makeup and

number of the projections involved in causing the movement between the positions. If only two projections are allowed to interact with the stopping members (ref. 11 of Figure 1) and the projections are separated by less than 90 degrees then an acute angle will result between position 1 and position 2 of the antenna shaft.

Regarding group 4, the applicant introduces four different conditions relating to the antenna positions and moving from one antenna position to another. One condition has the antenna neutrally biased in a partially canted position and on either side of this position is biased towards upright and fully canted positions where the antenna is stable in the upright and the fully canted positions. Figure 18 best illustrates how Podgorny meets this claim limitation. The projections have a flat (not pointed) tip and the spacer (ref. 21) is a long cylindrical piece made as a single part and fitted in the housing (ref. 5). When the antenna is changed over from one locked (stable) position to another, the projections press against the stopping members and because of the long, solid spacer and its tight fit into the housing, during the time that the projection is in contact with the stopping member there is no bias (neutrally biased) favoring either the upright or canted position. Since, once the antenna is moved out of the locked upright position the pivotable antenna will be in a partially canted position since it is no longer in the upright position. Also if the antenna is already in the fully canted position and is moved out of that releasably locked position, it will still be in a partially canted position. Once the antenna is moved beyond this neutrally biased position then the stopping member approach the recesses of the base and at that point the antenna is biased toward either the upright or the fully canted position.

Condition 2 has the antenna being releasably locked in the uptight position and once released, is biased towards a fully canted position where the antenna is stable in the upright and fully canted position. This condition is best met using the embodiment of Figure 9 where once the stopping member clears the recess and the projection tip, which is sufficiently small compared to the stopping member, the reactionary force from the spring will force the stopping member into the next recess. Thus, if only two projections are allowed to interact with the stopping members then as the antenna is moved out of the upright position it will be immediately biased towards the fully canted position.

Substantially, the same argument can be made for Condition 3 where the antenna is releasably locked in the fully canted position and when released is biased towards the fully canted position.

Condition 4 requires that the antenna is releasably locked in the fully canted position and once release will always be biased toward that canted position. This condition would require modification to Podgorny where only one recess would interact with one stopping member and once the stopping member is outside the recess, the spring force would seek to push the base back toward the one recess. Thus, the embodiment is always biased towards the fully canted position.

Group 5 limitations are met by the same arguments above for Group 1.

For the above reasons, it is believed that the rejections should be sustained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan T. Gantt whose telephone number is (703) 305-0077. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (703) 308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 746-5742 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Respectfully submitted,

Alan Gantt

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July 21, 2003

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